UNIT TERMINAL OBJECTIVE

5-13 At the end of this unit, the paramedic student will be able to utilize gynecological principles and assessment findings to formulate a field impression and implement the management plan for the patient experiencing a gynecological emergency.

COGNITIVE OBJECTIVES

At the completion of this unit, the paramedic student will be able to:

5-13.1 Review the anatomic structures and physiology of the female reproductive system. (C-1)
5-13.2 Identify the normal events of the menstrual cycle. (C-1)
5-13.3 Describe how to assess a patient with a gynecological complaint. (C-1)
5-13.4 Explain how to recognize a gynecological emergency. (C-1)
5-13.5 Describe the general care for any patient experiencing a gynecological emergency. (C-1)
5-13.6 Describe the pathophysiology, assessment, and management of specific gynecological emergencies. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this unit, the paramedic student will be able to:

5-13.7 Value the importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information. (A-2)
5-13.8 Defend the need to provide care for a patient of sexual assault, while still preventing destruction of crime scene information. (A-3)
5-13.9 Serve as a role model for other EMS providers when discussing or caring for patients with gynecological emergencies. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this unit, the paramedic student will be able to:

5-13.10 Demonstrate how to assess a patient with a gynecological complaint. (P-2)
5-13.11 Demonstrate how to provide care for a patient with: (P-2)

1. Excessive vaginal bleeding
a. Abdominal pain
b. Sexual assault

DECLARATIVE

I. Introduction
   A. Disorders in the female reproductive system can lead to gynecological emergencies
   B. Etiology
      1. Acute or chronic infection
      2. Hemorrhage
      3. Rupture
      4. Ectopic pregnancy
   C. Some conditions can be life-threatening without prompt intervention

II. Review of the anatomy and physiology of the female reproductive system
   A. Identification and physiology of specific body parts
      1. External genitalia (vulva)
         a. Mons pubis
         b. Labia
            (1) Majora
            (2) Minora
         c. Prepuce
         d. Clitoris
         e. Vestibule
         f. Urinary meatus
         g. Orifice of urethra
         h. Vaginal orifice
         i. Hymen
         j. Perineum
         k. Anus
      2. Internal genitalia
         a. Vagina
         b. Cervix
            (1) Cervical canal
         c. Uterus
            (1) Fundus
            (2) Body
            (3) Uterine cavity
            (4) Endometrium
            (5) Myometrium
         d. Fallopian tubes
         e. Ovaries
            (1) Corpus luteum
            (2) Follicles

(3) Oocytes

B. Normal physiology
1. Menstruation
a. Normal discharge
(1) Blood, mucous, cellular debris from uterine mucosa
b. Approximately every 28 days
c. Menarche
(1) Initial onset occurring during puberty
d. Menopause
(1) Cessation of ovarian function
(2) Cessation of menstrual activity
(3) Average age late 40s
2. Ovulation
a. Egg (ovum) released from ovary following breaking of follicle
b. Usually occurs 14 days after the beginning of the menstrual cycle
3. Menstrual and ovarian cycles
a. Proliferative phase
(1) Increase in endometrium thickness
(a) Stimulated by estrogen increase
(2) Anterior pituitary hormones released
(a) Stimulates cells producing estrogen
(b) Initiates ovarian cycle
(3) Phase maintained by increased estrogen production
b. Secretory phase
(1) Follows ovulation
(2) Influenced by estrogen and progesterone
(3) Prepares the endometrium for gestation
(a) Gestation - period from fertilization until birth
c. Menstrual phase
(1) Occurs when ovum is not fertilized
(2) Discharge lasts on average 4-6 days
(3) Flow averages 25-60 ml
(4) Absent during pregnancy

III. General assessment findings of the patient with a gynecological emergency
A. History of present illness
1. SAMPLE
a. Associated symptoms

(1) Febrile
(2) Diaphoresis
(3) Syncope
(4) Diarrhea
(5) Constipation
(6) Urinary cramping

2. Check for pain or discomfort
   a. OPQRST
   b. Abdominal
   c. Dysmenorrhea - painful menstruation
   d. Aggravation
      (1) During ambulation
      (2) Dyspareunia - pain during intercourse
      (3) Defecation
   e. Alleviation
      (1) Positioning
      (2) Ceasing activity
3. Present health
   a. Note any preexisting conditions

B. Obstetric history
1. Gravida
   a. Number of pregnancies
2. Para
   a. Number of pregnancies carried to term
3. Previous cesarean sections
4. Last menstrual period
   a. Date
   b. Duration
   c. Normalcy
   d. Bleeding between periods
   e. Regularity
5. Possibility of pregnancy
   a. Missed or late period
   b. Breast tenderness
   c. Urinary frequency
   d. Morning sickness
      (1) Nausea and/ or vomiting
   e. Sexually active
      (1) Unprotected sex
6. History of previous gynecological problems
   a. Infections
   b. Bleeding
   c. Miscarriage
   d. Abortion

e. Ectopic pregnancy
7. Present blood loss
a. Color
b. Amount
(1) Pads per hour
c. Duration
8. Vaginal discharge
a. Color
b. Amount
c. Odor
9. Use and type of contraceptive
a. Birth control pills
b. Intrauterine device
c. Spermacides
d. Condoms
e. Diaphragm
f. Withdrawal
g. Rhythm
h. Tubal ligation
i. Depo-provera
j. Norplant
10. History of trauma to the reproductive system
11. Emotional distress
a. Degree

C. Physical examination
1. Comforting attitude
a. Protect modesty
b. Maintain privacy
c. Be considerate of reasons for patient discomfort
2. Level of consciousness
3. General appearance
a. Skin and mucous membrane color
(1) Cyanosis
(2) Pallor
(3) Flushed
b. Vital signs
(1) Orthostatic measurement discrepancies
c. Check for bleeding and discharge
(1) Color
(2) Amount
(3) Evidence of clots and/ or tissue
d. Auscultate the abdomen
(1) Absence of bowel sounds
(2) Hyperactive bowel sounds

e. Palpate the abdomen
(1) Masses
(2) Areas of tenderness
(3) Guarding
(4) Distention
(5) Rebound tenderness

IV. General management
A. Support airway, breathing
1. Oxygen
a. High flow PRN
b. Ventilate as necessary
2. Circulation
a. Intravenous access
(1) Typically not necessary
(2) If patient is demonstrating signs of impending shock or has excessive vaginal bleeding
(a) Large bore IV in a large vein
(b) Normal saline or lactated Ringers
(c) Flow rate based on patient presentation
(d) Consider a second line
b. Monitor and evaluate for serious bleeding
(1) Do not pack dressings in vagina
(2) Discourage use of tampon
(3) Keep count of pads used
c. Shock impending
(1) Trendelenburg
(2) Consider use of PASG
3. Non-pharmacological intervention
a. Position of comfort and care
(1) Based on patient's presentation
(2) Left lateral recumbent
(3) Knee/ chest
(4) Hips raised/ knees bent
b. Cardiac monitoring PRN
c. Consider possibility of pregnancy
(1) Be prepared for delivery
(2) Consider ectopic pregnancy
4. Pharmacological intervention
a. Analgesia typically not appropriate
(1) Masks symptoms for medical diagnosis
(2) May mask deteriorating condition (e.g. emergent shock)

5. Transport consideration
    a. Physician evaluation necessary
    b. Surgical intervention may be necessary
    c. Consider emergency transport to an appropriate facility
6. Psychological support
    a. Calm approach
    b. Maintain modesty/ privacy
    c. Gentle care

V. Specific gynecological emergencies
  A. Non traumatic abdominal pain
    1. Pelvic inflammatory disease
      a. Incidence
        (1) Affects about 1 million women annually
      b. Cause
        (1) Acute or chronic infection
          (a) Gonorrhea
          (b) C. Trachomatis
          (c) Chlamydia
          (d) Staphylococci
          (e) Streptococci
      c. Organs affected by PID
        (1) Initial access through vagina, ascends to other organs
          (a) Cervix
          (b) Uterus/ endometrium
          (c) Fallopian tubes
          (d) Ovaries
          (e) Uterine and ovarian support structures
          (f) Liver
      d. Complications
        (1) Sepsis
        (2) Infertility
      e. Specific assessment findings
        (1) Lower abdominal pain
        (2) Fever may be present
        (3) Vaginal discharge
        (4) Dyspareunia
        (5) Patient doubled over when ambulating
        (6) Abdominal guarding
        (7) Acute onset typically within approximately one week of menstrual period
        (8) Ill appearance

f. Management
(1) See "general management"

2. Ruptured ovarian cyst
a. Incidence
(1) Typically spontaneous
(2) May be associated with mild abdominal injury, intercourse, or exercise
b. Cause
(1) Typically a benign cyst
(2) Thin walled fluid filled sac
c. Organs affected
(1) Develops on ovary
d. Complications
(1) Significant internal bleeding could occur, but is rare
e. Specific assessment findings
(1) May have sudden onset of severe lower abdominal pain
(2) Typically affects one side, may radiate to back
(3) Rupture may result in some vaginal bleeding
f. Management
(1) See "general management"

3. Cystitis
a. Incidence
(1) Frequent
b. Cause
(1) Infection (usually bacterial)
c. Organs affected
(1) Bladder and ureters
d. Complications
(1) If untreated, may lead to pyelonephritis
e. Specific assessment findings
(1) Suprapubic tenderness
(2) Frequency of urination
(3) Dysuria - painful urination
(4) Blood in urine
f. Management
(1) See "general management"

4. Mittelschmerz
a. Incidence
(1) Typically midway into menstrual cycle
b. Cause
(1) Pain occurring at time of ovulation

(2) Possibly related to peritoneal irritation secondary to follicular leakage/ bleeding during ovulation

c. Organs affected
(1) Ovary
(2) Follicles

d. Complications
(1) Typically not immediate life-threat
(2) Requires physician evaluation

e. Specific assessment findings
(1) Unilateral lower quadrant abdominal pain
(2) Low grade fever
(3) Symptoms similar to ruptured ovarian cyst

f. Management
(1) See "general management"

5. Endometritis

a. Incidence
(1) Occurs most often after childbirth or abortion

b. Cause
(1) Infection, resulting in inflammation of the endometrial lining

c. Organs affected
(1) Uterus
(2) Fallopian tubes

d. Complications
(1) If untreated, may lead to sepsis and death
(2) Sterility

e. Specific assessment findings
(1) Lower abdominal pain
(2) Purulent vaginal discharge

f. Management
(1) See section “management of non-traumatic abdominal pain”

6. Endometriosis

a. Incidence
(1) Most common in women who defer pregnancy
(2) Average women in her late 30s

b. Cause
(1) Growth of endometrial tissue outside of uterus

c. Organs affected
(1) Fallopian tubes
(2) Pelvic organs

(3) Bowel
(4) Bladder
(5) Ligaments

d. Complications
(1) Painful intercourse
(2) Painful menstruation
(3) Painful bowel movements

e. Specific assessment findings
(1) Severe pain during and immediately following intercourse and bowel movement

f. Management
(1) See "general management"

7. Ectopic pregnancy
a. Incidence
(1) Consider possibility for any female of reproductive age with abdominal pain (see obstetrics unit for detail)

8. Vaginal bleeding
a. Incidence
(1) Rarely a 9-1-1 call unless severe

b. Causes
(1) Menstruation
(a) Never assume that your emergency call for vaginal hemorrhage is due to normal menstruation
(b) Menorrhagia (heavy vaginal bleeding)
(2) Abortion/ miscarriage
(a) Assume always during first and second trimester of known or possible pregnancy
(b) Consider if last menstrual period > 60 days
(c) May have history of similar events
(d) Note particularly any tissue or large clots
i) If possible, collect material for pathological review
(e) Emotional support extremely important
(3) Placenta previa/ placenta abruption
(a) Vaginal bleeding in third trimester
(b) Always a serious emergency
(4) Other causes
(a) Lesion
(b) PID

(c) Trauma
(d) Onset of labor
c. Organs affected
(1) Female sexual organs
d. Complications
(1) May be life-threatening
(2) May lead to hypovolemic shock and death
e. Specific assessment findings
(1) Onset of symptoms
(2) Additional physical examination
(a) Check for impending shock; orthostatic vital signs
(b) Presence and volume of vaginal blood
f. Management
(1) See "general management"

B. Traumatic abdominal pain
1. Vaginal bleeding
a. Incidence
(1) Increasing
b. Causes
(1) Straddle injuries
(2) Blows to the perineum
(3) Blunt force to lower abdomen
(a) Assault
(b) Seat belt injuries
(4) Foreign bodies inserted into the vagina
(5) Abortion attempts
(6) Soft tissue injury
c. Organs affected
(1) Any or all of the pelvic organs
d. Complications
(1) Severe bleeding
(2) Organ rupture
(3) Hypovolemic shock
e. Specific assessment findings
(1) Consistent with severe internal injuries
f. Management
(1) See "general management"

VI. Sexual assault
A. General findings and management
1. History
a. Do not inquire regarding the patient's sexual history or practices

b. Do not ask questions that may cause patient to have guilt feelings

2. Common reactions
   a. May range from anxiety to withdrawal and silence
   b. Denial, anger and fear are normal behavior patterns
3. Assessment
   a. Examine the genitalia only if necessary
      (1) Presence of severe injury
   b. Explain all procedures before doing an examination
   c. Avoid touching the patient without permission
   d. Maintain the patient's privacy/ modesty
   e. Check for other physical injury
4. Management
   a. Psychological support is very important
   b. Provide a safe environment
   c. Respond to victim's wishes to talk or not to talk
   d. Do not use invasive procedures unless the situation is critical
   e. This is a crime scene - preserve any evidence
      (1) Handle clothing as little as possible
      (2) Paper bag each item separately
      (3) Ask the patient not to change clothes, bathe, or douche
      (4) Do not disturb the scene if possible
      (5) Do not clean wounds unless absolutely necessary
      (6) Do not allow the patient to drink or brush their teeth
   f. Maintain a non-judgmental/ professional attitude
      (1) Be aware of your own feelings and prejudices
   g. Have female personnel attend to the female patient whenever possible
      (1) Ask if female personnel are preferred
   h. Provide reassurance to patient of such
      (1) Confidentiality is critical